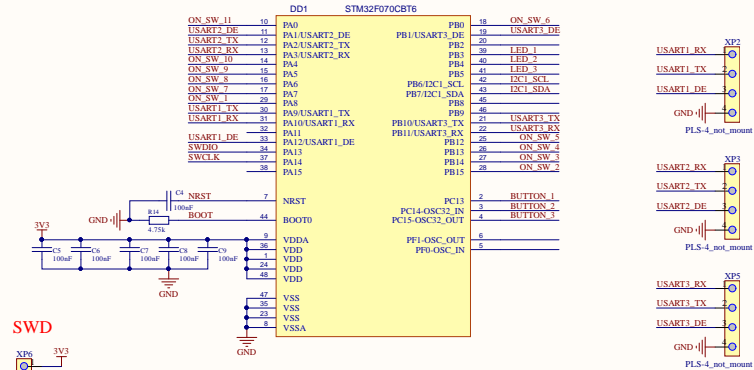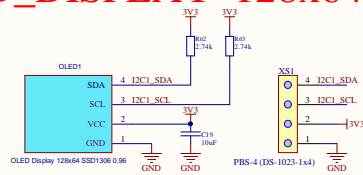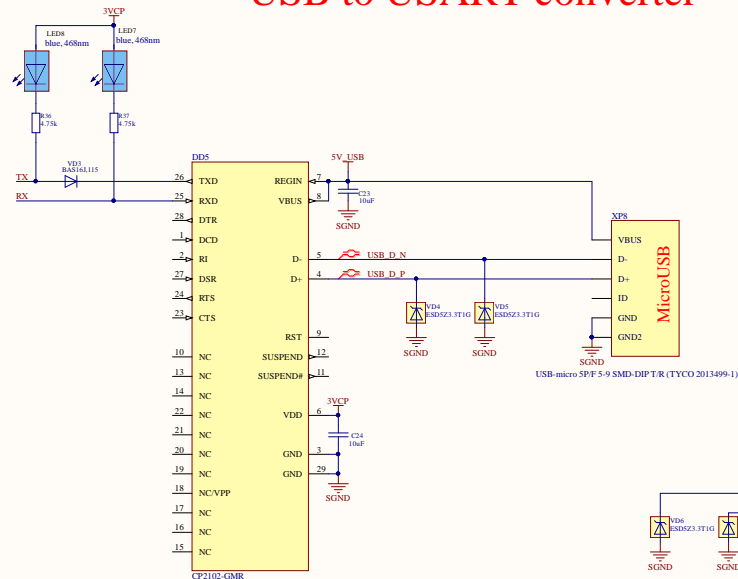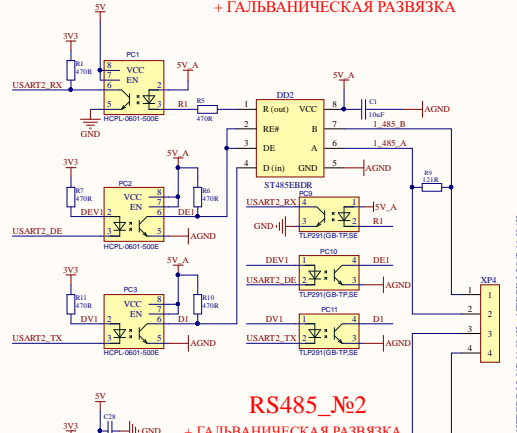# STM32F070CBT6

OLED_DISPLAY 128x64

USB to USART converter

RS485 №1
+ ГАЛЬВАНИЧЕСКАЯ РАЗВЯЗКА

RS485 №2
+ ГАЛЬВАНИЧЕСКАЯ РАЗВЯЗКА

+ ГАЛЬВАНИЧЕСКАЯ РАЗВЯЗКА
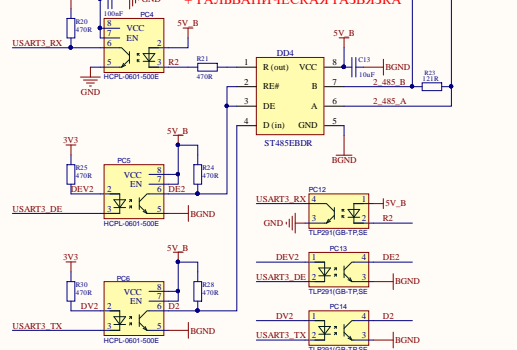
USART 3.3V

Power IN 12V
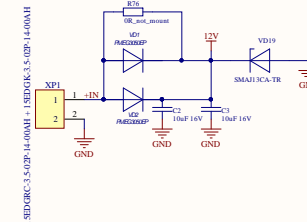
LDO 3.3V for MCU
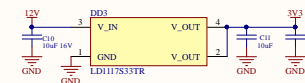
LDO 5V for DC/DC
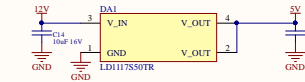
DC/DC for RS485 №1

DC/DC for RS485 №2

LEDs

BUTTONS

Power Switch

Power Switch

DD1 STM32F070CBT6

SWD

OLED1
OLED Display 128x64 SSD1306 0.96

DD5 CP2102-GMR

MicroUSB
USB-micro 5P/F 5-9 SMD-DIP T/R (TYCO 2013499-1)

DD2 ST485EBDR
DD4 ST485EBDR

DD3 LD1117S33TR
DA1 LD1117S50TR
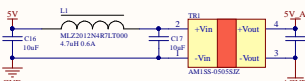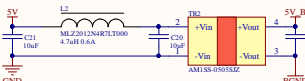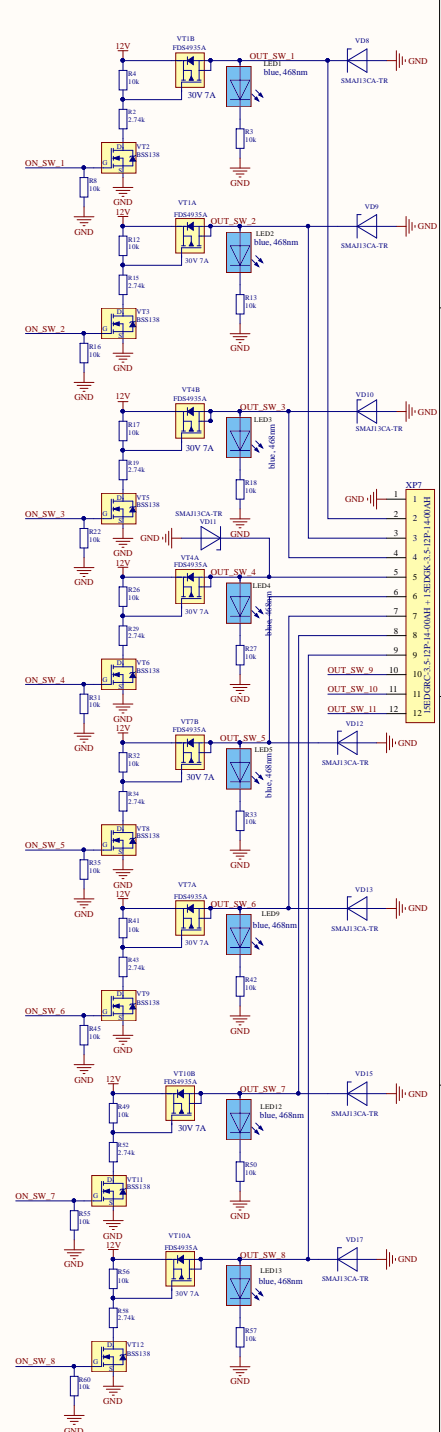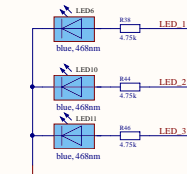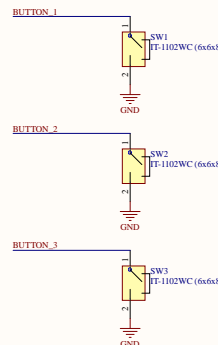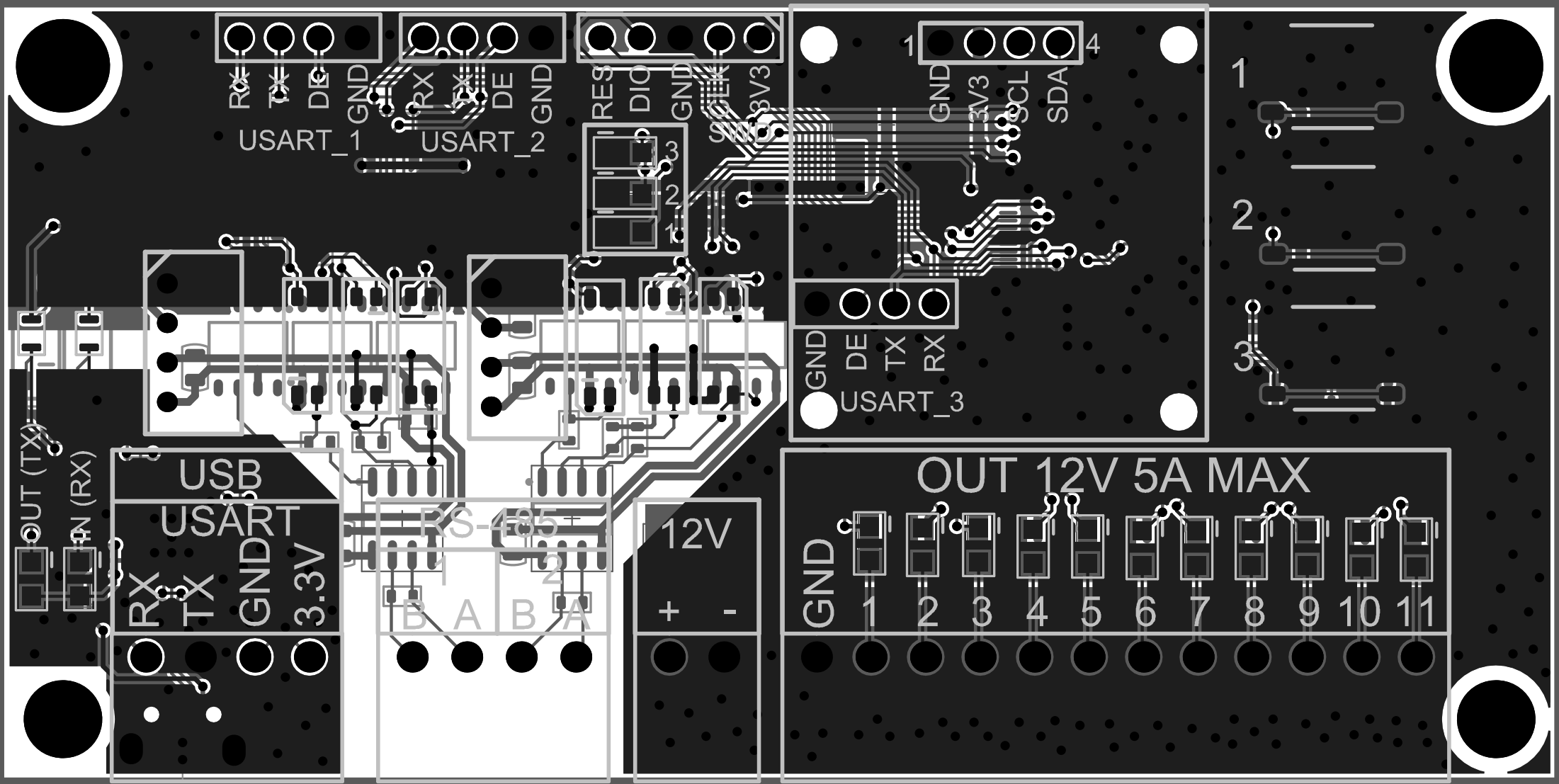
RX TX DE GND
USART_1

RX A DE GND
USART_2

RES DIO GND CLK SWD 3V3

1 GND 3V3 SCL SDA 4

1

2

3

3

2

1

GND DE TX RX
USART_3

OUT (TX)
IN (RX)

USB
USART

RX TX GND 3.3V

RS-485

1
B A

2
B A

12V
+ -

OUT 12V 5A MAX

GND 1 2 3 4 5 6 7 8 9 10 11

Comment	Description	Footprint	Designator	Quantity
C0805, 10uF, 10V, X5R	C0805, 10uF, 10V, X5R	C0805	C1, C11, C12, C13, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24	14
C0805, 10uF, 16V, X5R	C0805, 10uF, 16V, X5R	C0805	C2, C3, C10, C14	4
C0603, 100nF 50V	C0603, 100nF 50V	C0603	C4, C5, C6, C7, C8, C9, C28	7
LD1117S50TR	IC REG LDO 0.8A 5V SOT223-4	SOT223_N	DA1	1
STM32F070CBT6	ARM® Cortex®-M0 STM32F0 Microcontroller IC 32-Bit 48MHz 128KB (128K x 8) FLASH 48-LQFP (7x7)	LQFP48_L	DD1	1
ST485EBDR	Transceiver RS485, 8-SOIC	SO-8_L	DD2, DD4	2
LD1117S33TR	IC REG LDO 0.8A 3.3V SOT223-4	SOT223_N	DD3	1
CP2102-GMR	IC USB-TO-UART BRIDGE 28VQFN	QFN28	DD5	1
MLZ2012N4R7LT000	4.7µH Shielded Multilayer Inductor 600mA 180mOhm 0805 (2012 Metric)	L0805	L1, L2	2
FYLS-0805BUBC	LED, blue, 0805	LED_0805_B	LED1, LED2, LED3, LED4, LED5, LED6, LED7, LED8, LED9, LED10, LED11, LED12, LED13, LED14, LED15, LED16	16
OLED Display 128x64 SSD1306 0.96	OLED Display 128x64 SSD1306 0.96	OLED Display 128x64 SSD1306 0.96	OLED1	1
HCPL-0601-500E	OPTOISO 3.75KV OPN COLLECTOR 8SO	SO-8_HCPL	PC1, PC2, PC3, PC4, PC5, PC6	6
TLP291(GB-TP,SE	Photocoupler TLP291	TLP292	PC7, PC8, PC9, PC10, PC11, PC12, PC13, PC14	8
R0603, 470R 1%	R0603, 470R 1%	R0603	R1, R5, R6, R7, R10, R11, R20, R21, R24, R25, R28, R30, R39, R40, R47, R48	16
R0603, 2.74k 1%	R0603, 2.74k 1%	R0603	R2, R15, R19, R29, R34, R43, R52, R58, R62, R63, R65, R69, R73	13
R0603, 10k 1%	R0603, 10k 1%	R0603	R3, R4, R8, R12, R13, R16, R17, R18, R22, R26, R27, R31, R32, R33, R35, R41, R42, R45, R49, R50, R55, R56, R57, R60, R64, R66, R67, R68, R70, R71, R72, R74, R75	33
R0603, 121R 1%	R0603, 121R 1%	R0603	R9, R23, R59, R61	4
R0603, 4.75k 1%	R0603, 4.75k 1%	R0603	R14, R36, R37, R38, R44, R46	6
R0805, 0R_not_mount	R0805, 0R_not_mount	R0805	R51, R53, R54, R76, R77	5
IT-1102WC (6x6x8)	Horizontal Push Tact Switch	IT-1102WC	SW1, SW2, SW3	3
AM1SS-0505SJZ	Isolated Module DC DC Converter 1 Output 5V 200mA 4.5V - 5.5V Input	4-SIP (11.6x6x10.2)	TR1, TR2	2
PMEG3050EP	DIODE 5 A 30 V Schottky barrier rectifier	SOD128	VD1, VD2	2
BAS16J,115	Switching Diode 250MA 100V SOD323	SOD-323	VD3	1
ESD5Z3.3T1G	TVS ESD SOD−523	SOD-523	VD4, VD5, VD6, VD7	4
SMAJ13CA-TR	TVS DIODE 13V 27.2V SMA	SMA	VD8, VD9, VD10, VD11, VD12, VD13, VD14, VD15, VD16, VD17, VD18, VD19	12
FDS4935A	Mosfet Array 2 P-Channel 30V 7A 8-SO	SO-8_L	VT1, VT4, VT7, VT10, VT13, VT16	6
BSS138	N-Channel 50V 220mA (Ta) 360mW (Ta) Surface Mount SOT-23-3	SOT-23	VT2, VT3, VT5, VT6, VT8, VT9, VT11, VT12, VT14, VT15, VT17	11
15EDGRC-3.5-02P-14-00AH + 15EDGK-3.5-02P-14-00AH	Connector 15EDGRC-3.5-02P-14-00AH + 15EDGK-3.5-02P-14-00AH	15EDGRC-3.5-02P-14-00AH	XP1	1
PLS-4_not_mount	Connector PLS-4 (2.54mm x1)	PLS-4_not_mount	XP2, XP3, XP5	3
15EDGRC-3.5-04P-14-00AH + 15EDGK-3.5-04P-14-00AH	Connector 15EDGRC-3.5-04P-14-00AH + 15EDGK-3.5-04P-14-00AH	15EDGRC-3.5-04P-14-00AH	XP4, XP9	2
15EDGRC-3.5-12P-14-00AH	15EDGRC-3.5-12P-14-00AH + 15EDGK-3.5-12P-14-00AH	15EDGRC-3.5-12P-14-00AH	XP7	1
USB-micro 5P/F 5-9 SMD-DIP T/R (TYCO 2013499-1)	Micro USB 5S-B	TYCO 2013499-1	XP8	1
PBS-4 (DS-1023-1x4)	Connector PBS-04 (2.54mm x1)	PBS-4	XS1	1